

**Commonwealth of Kentucky
Division for Air Quality**

PERMIT APPLICATION SUMMARY FORM

Completed by: Rick Shewekah

GENERAL INFORMATION:

Name:	Lexmark International, Inc.
Address	740 West New Circle Road Lexington, KY 40550
Date application received:	12/17/1999
SIC/Source description:	3572, Computer Storage Devices
Source ID:	21-067-00012
Agency Interest #:	1058
Activity ID:	APE20040002
Permit ID:	F-06-061

APPLICATION TYPE/PERMIT ACTIVITY:

<input checked="" type="checkbox"/> Initial issuance	<input type="checkbox"/> General permit
<input type="checkbox"/> Permit modification	<input checked="" type="checkbox"/> Conditional major
__Administrative	<input type="checkbox"/> Title V
__Minor	<input type="checkbox"/> Synthetic minor
__Significant	<input checked="" type="checkbox"/> Operating
<input type="checkbox"/> Permit renewal	<input type="checkbox"/> Construction/operating

COMPLIANCE SUMMARY:

<input type="checkbox"/> Source is out of compliance	<input type="checkbox"/> Compliance schedule included
<input type="checkbox"/> Compliance certification signed	

APPLICABLE REQUIREMENTS LIST:

<input type="checkbox"/> NSR	<input type="checkbox"/> NSPS	<input type="checkbox"/> SIP
<input type="checkbox"/> PSD	<input type="checkbox"/> NESHAPS	<input type="checkbox"/> Other
<input type="checkbox"/> Netted out of PSD/NSR	<input type="checkbox"/> Not major modification per 401 KAR 51:001, 1(116)(b)	

MISCELLANEOUS:

- ☐ Acid rain source
- ☐ Source subject to 112(r)
- ☒ Source applied for federally enforceable emissions cap
- ☐ Source provided terms for alternative operating scenarios
- ☐ Source subject to a MACT standard
- ☐ Source requested case-by-case 112(g) or (j) determination
- ☐ Application proposes new control technology
- ☒ Certified by responsible official
- ☒ Diagrams or drawings included
- ☒ Confidential business information (CBI) submitted in application
- ☐ Pollution Prevention Measures
- ☐ Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

Pollutant	Actual ⁽¹⁾ (tpy)	Potential (tpy)	Allowable (tpy)
PM	1.16	6.04 ⁽³⁾	N/A
PM ₁₀	1.16	> 100 ⁽³⁾	< 90 ⁽²⁾
SO ₂	4.27	> 100 ⁽³⁾	< 90 ⁽²⁾
NO _x	23.79	> 100	< 90 ⁽²⁾
CO	5.55	> 100	< 90 ⁽²⁾
VOC	7.40	27.43	N/A
Lead	0.00018	0.00170	N/A
Single HAPs	0.0015 (HF, CAS #: 07664-39-3)	2.46 (Hexane, CAS #: 110-05-43)	N/A
Source wide HAPs	0.0015	5.01	N/A

- (1) Actual emissions are based on the 2005 Kentucky Emissions Inventory Statement (KYEIS).
(2) Limited emissions in order to comply with 401 KAR 52:030, *Federally Enforceable Permits for Non-major Sources*.
(3) Potential emissions of PM, PM-10 and SO₂ are greater than 100 tons per year each when emissions are calculated using back-up fuels for boilers EP 200-1 and EP 803-EP 808.

SOURCE DESCRIPTION:

The Lexington facility of Lexmark International, Incorporated (Lexmark) located at 740 West New Circle Road, Lexington, Kentucky 40550, houses its corporate headquarters and research and development laboratories. The facility conducts research and development for laser printer cartridges and ink jet cartridges for Lexmark's printing technologies. Some of the designs and processes developed at Lexmark's Lexington location are modified and implemented as production level processes at Lexmark's world wide manufacturing plants.

This source consists mainly of surface coating operations and combustion operations. The emissions from this source are volatile organic compounds (VOCs), particulate matter (PM/PM-10), and hazardous air pollutants (HAPs) from the surface coating operations and carbon monoxide (CO), nitrogen oxide (NO_x), VOCs, particulate matter (PM/PM-10), and sulfur dioxide (SO₂) from combustion units. All emissions from the combustion units are uncontrolled. The particulate matter emissions from surface coating operations are subject to 401 KAR 59:010. The particulate emissions from surface coating operations are controlled by disposable mesh filters.

The potential to emit (as defined in 401 KAR 52:001, Section 1 (192)) of CO, NO_x, PM-10, and SO₂ for this source are each greater than one hundred (100) tons per year; therefore the source is a major source under 401 KAR 52:020, *Title V Permits*. The source has requested to take limits on the source-wide emissions of CO, NO_x, PM-10, and SO₂ to less than Title V major source thresholds. Therefore, the source will be issued a Conditional Major operating permit under 401 KAR 52:030, *Federally Enforceable Permits for Non-major Sources*. This is the initial Conditional Major permit for this source. Prior to 1991, this plant was owned and operated by IBM, Inc.

EMISSION AND OPERATING CAPS DESCRIPTIONS:

In order to preclude applicability of 401 KAR 52:020, *Title V Permits*, the source has voluntarily requested to limit the source-wide emissions of particulate matter with a size of less than ten (10) micrometers (PM₁₀), nitrogen oxides (NO_x), sulfur dioxide (SO₂), and carbon monoxide (CO) each to less than 100 tons per year. The unlimited emissions of HAPs for this source are less than 10 tons per year for a single HAP and less than 25 tons per year for the combined HAPs. As such, this source is not a major source under Part 70. The source will be issued a Conditional Major permit under 401 KAR 52:030, *Federally-Enforceable Permit for Non-Major Source*.

To preclude the applicability of 401 KAR 52:020, *Title V Permits*, the following source-wide emission limits shall apply:

- (1) Sulfur dioxide (SO₂) emissions: < 90 tons per year;
- (2) Particulate matter, with a size of less than ten (10) micrometers (PM₁₀), emissions: < 90 tons per year;
- (3) Nitrogen oxides (NO_x) emissions: < 90 tons per year; and
- (4) Carbon monoxide (CO) emissions: < 90 tons per year.

In order to make the conditional major emission limits practically enforceable the following limits shall apply:

- (a) The total emissions of sulfur dioxide (SO₂) shall be limited by the following equation, with compliance determined at the end of each month:

$$\text{SO}_2 \text{ Emissions} = \sum_{n=1}^m \left[(\text{FO5}_B * 0.0785) + (\text{NG}_B * 0.6) + (\text{FO2}_B * 0.071) + (\text{FO2}_G * 0.042) \right] / 2,000 < 90.0 \text{ tons per twelve (12) consecutive month period}$$

Where,

n = Month Number (i.e. January = 1, February = 2, etc.);

m = Total Number of Months in Period;

FO5_B = Usage of No. 5 Fuel Oil (gallons) for Boilers EP 803 through EP 808;

NG_B = Usage of Natural Gas (mmscf) for Boilers EP 803 through EP 808 and EP 200;

FO2_B = Usage of No. 2 Fuel Oil (gallons) for Boiler EP 200;

FO2_G = Usage of No. 2 Fuel Oil (gallons) for Emergency Generators and Fire Pump.

This fuel usage limit shall restrict the source-wide emissions of SO₂ to less than 90 tons per year, based on AP-42 emission factors.

- (b) The total emissions of nitrogen oxides (NO_x) shall be limited by the following equation, with compliance determined at the end of each month:

$$\text{NO}_x \text{ Emissions} = \sum_{n=1}^m \left[\frac{(\text{FO5}_B * 0.055) + (\text{NG}_B * 100) + (\text{FO2}_B * 0.02) + (\text{FO2}_G * 0.62)}{2,000} \right] < 90.0 \text{ tons per twelve (12) consecutive month period}$$

Where,

n = Month Number (i.e. January = 1, February = 2, etc.);

m = Total Number of Months in Period;

FO5_B = Usage of No. 5 Fuel Oil (gallons) for Boilers EP 803 through EP 808;

NG_B = Usage of Natural Gas (mmscf) for Boilers EP 803 through EP 808 and EP 200;

FO2_B = Usage of No. 2 Fuel Oil (gallons) for Boiler EP 200;

FO2_G = Usage of No. 2 Fuel Oil (gallons) for Emergency Generators and Fire Pump.

This fuel usage limit shall restrict the source-wide emissions of NO_x to less than 90 tons per year, based on AP-42 emission factors.

Compliance with the NO_x and SO₂ emission limitations above will also limit emissions of PM-10 and CO to less than 100 tons per year each. As such, limitations for PM-10 and CO have not been incorporated into the permit.

- (c) The sulfur content of No. 5 fuel oil input to the Boilers (EP 803 through EP 808), shall not exceed 0.5% by weight.
- (d) The sulfur content of No. 2 fuel oil input to the Boiler (EP 200), shall not exceed 0.5% by weight.
- (e) The hours of operation for the twenty-three (23) diesel-fired emergency generators identified as EP 800 (001-1, 001-2, 002-2, 005-2 (two emergency generators), 008-1, 009-1, 010-2, 013-1, 013-2, 021-1 (two generators), 032-1, 035-1, 046-1, 058-1, 058-2, 082-1 (two generators), 098-2, and 200-1), EP 801, and EP 802 and the one (1) diesel-fired emergency fire pump, identified as EP 810, shall each be limited to less than five hundred (500) hours per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (f) The sulfur content of No. 2 fuel oil for the twenty-three (23) diesel-fired emergency generators and the one (1) diesel-fired emergency fire pump shall not exceed 0.5% by weight.

Compliance with these limitations shall also render the requirements of 401 KAR 51:017, *Prevention of Significant Deterioration of Air Quality* not applicable.

OPERATIONAL FLEXIBILITY:

There are no alternate operating scenarios proposed in this permit.